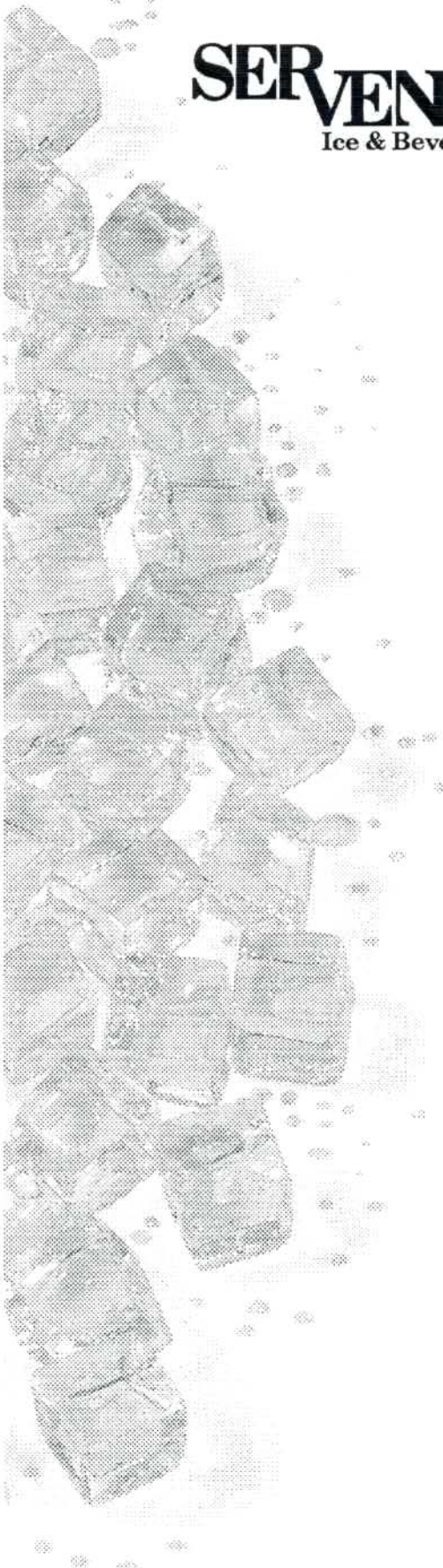
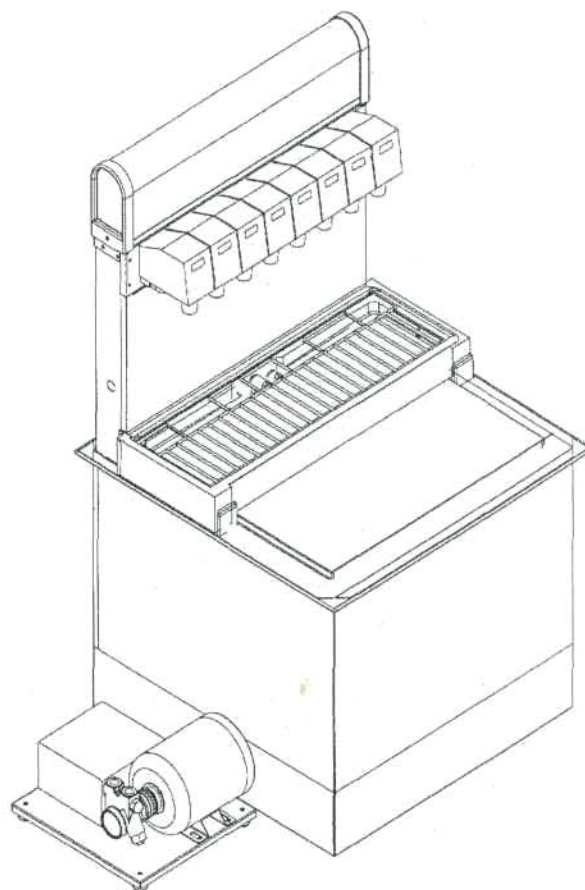




SERVEND
Ice & Beverage Systems

Cold Carbonated Drop-In Installation & Service Manual



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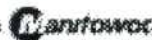
 Manufactured by

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FORWORD

SerVend developed this manual as a reference guide for the owner/operator, service agent, and installer of this drop in equipment. Please read this manual before installation or operation of the machine. Consult and troubleshooting guide within this manual for service assistance

If you cannot correct the service problem, call your SerVend Service Agent or Distributor. Always have your model and serial number available when you call.

YOUR SERVICE AGENT _____

SERVICE AGENT TELEPHONE NUMBER _____

MODEL NUMBER _____

SERIAL NUMBER _____

The model and serial numbers are located on the front of the right corner of the ice chest under the counter or on the right side of the tower.

INSTALLATION DATE _____

YOUR LOCAL SERVEND DISTRIBUTOR _____

DISTRIBUTOR TELEPHONE NUMBER _____

WARRANTY INFORMATION

Consult your local SerVend Distributor for terms and conditions of your warranty. Your warranty specifically excludes all beverage valve boxing, general adjustments, cleaning, accessories and related servicing.

Your warranty card must be returned to SerVend to activate the warranty on this equipment. If a warranty card is not returned, the warranty period may begin when the equipment leaves the SerVend factory.

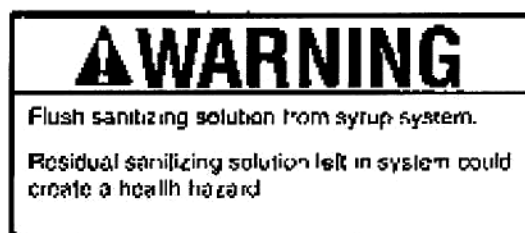
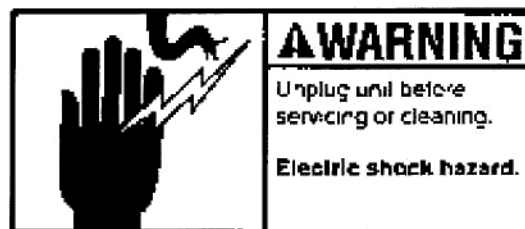
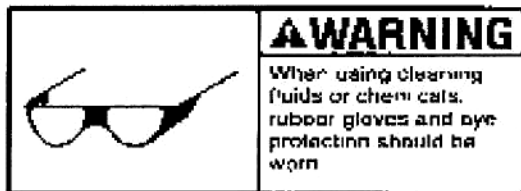
No equipment may be returned to SerVend without a written Return Goods Authorization (RGA). Equipment returned without an RGA will be refused at SerVend's dock and returned to the sender at the sender's expense.

Please contact your local SerVend distributor for return procedures.

SAFETY INSTRUCTIONS

Installation and start-up of this equipment should be done by a qualified service technician.

Operation, maintenance, and cleaning information in this manual are provided for the user/operator of the equipment.



DAILY CHECK LIST

- ☐ Check CO₂ supply. If CO₂ supply is low, an arrow on the primary regulator gauge will point to a shaded area that reads "Low CO₂" or "Change CO₂ Cylinder."
- ☐ Check Syrup supply.
- ☐ Clean drain pan, grid, splash panel and bin top. See daily cleaning instructions on page 13.
- ☐ Clean and sanitize the valve nozzles and diffusers. See daily cleaning instructions on page 13.
- ☐ Fill the ice chest each morning with fresh ice.

EQUIPMENT OVERVIEW

The design of the SerVend Drop In is such that it provides high accessibility to the ice stored in the chest, while allowing maximum convenience of beverage dispensing.

The function of a Drop In is to allow easy and fast access to ice for filling beverage cups, chilling and dispensing carbonated and noncarbonated beverages.

The major components of the Cold Carbonated SerVend Drop In dispensers are the ice chest with the sealed-in coldplate, internal carbonator, the beverage valves, valve tower, carbonator pump deck (power supply) and merchandiser (optional).

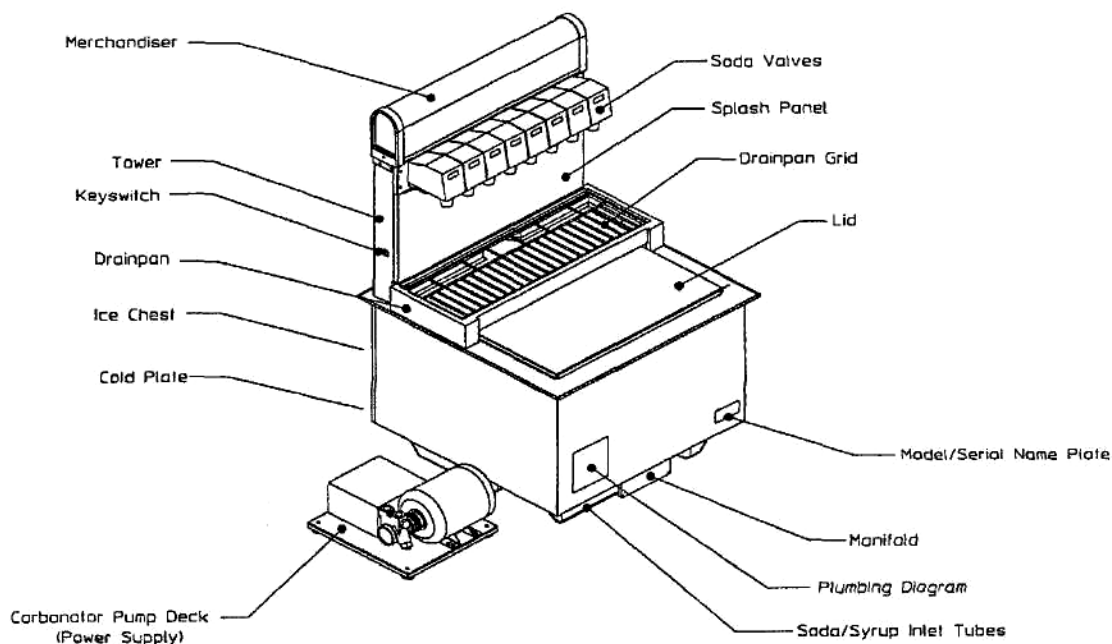
The bottom of the ice chest is the coldplate. The coldplate is a block of aluminum, with serpentine stainless steel tubes molded inside. The stainless steel tubes inside the coldplate carry water to the internal carbonator back through the stainless steel tubes, noncarbonated water (plain water), and beverage syrup to the beverage valves. The water and syrup are chilled to the proper service temperature while flowing through the stainless

steel tubes in the cold plate.

The beverage valve is designed to precisely meter the flow of both water and syrup to obtain the proper mixing ratio. These two components of the beverage are mixed as they leave the valve.

The valve tower holds the valves above the ice chest and provides a conduit for the beverage tubing and electric wires to pass between the chest and the valves.

The merchandiser assembly consists of the sign, light bulb, and merchandiser frame. The tri-view merchandiser allows viewing the medallion from the front, back, or top.



SPECIFICATIONS

	D1-2323	DIL-2323
Weight of Drop In	145 lb.	160 lb.
Weight of Drop In filled with ice	222 lb.	257 lb.
Height of tower, less merchandiser	17.75 in.	17.75 in.
Height of tower, with merchandiser	23.75 in.	23.75 in.
Beverage dispensing height	9.5 in.	9.5 in.
Chest width	23 in.	23 in.
Chest depth	18.5 in.	23.5 in.
Flange width (outside)	25 in.	25 in.
Flange depth (outside)	25 in.	25 in.
Counter top cutout width	23.25 in.	23.25 in.
Counter top cutout depth	23.25 in.	23.25 in.
Standard electric voltage	120 volts 60 Hz.	120 volts 60 Hz.

Water Supply

Incoming water supply minimum of 40 and maximum of 55 psi.

If incoming water supply is over 55 psi you have to install a water regulator.

If incoming water pressure is under 40 psi a water booster is recommended.

Note: The incoming water supply for the carbonator, which is connection "A" on the plumbing diagram, must first be ran through the carbonator pump which is located on the carbonator pump deck (power supply).

CO2 Supply

CO₂ pressure to the Bag-in-the-box pump - 60 psi.

CO₂ pressure to the carbonator - 75 psi.

Note: CO₂ inlet for the carbonator is located with the cold plate inlet lines. See plumbing diagram for exact plumbing location.

INSTALLATION

The Cold Carbonated SerVend Drop In is shipped in a heavy duty corrugated carton with a wooden pallet. Inspect the Drop In for freight damage. If any damage is noticed, stop immediately and contact your delivering freight company. You must file a freight claim for your equipment. Failure to do so can void any claims. SerVend is not responsible for any freight damage.

Before you begin the installation, please check to be sure you can achieve a proper installation. Things to look for include, but are not limited to:

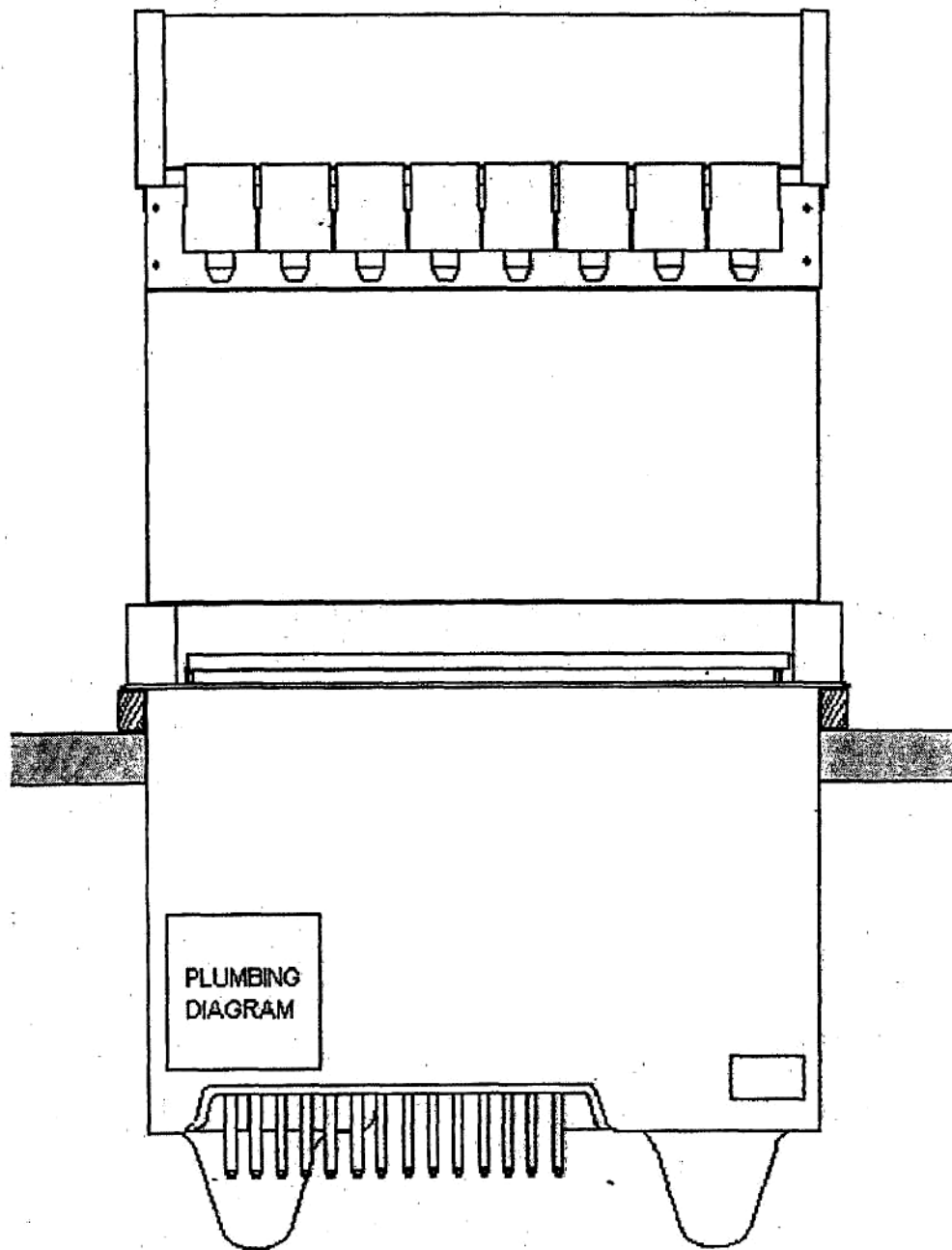
- ☐ Flat, level counter top
- ☐ Is there enough space for the Drop In? Do not forget the flange and tower allowances.
- ☐ How about under the counter? Is there room for the Drop In with drain and beverage tubing along with the electric necessary?
- ☐ Can the counter top support the weight of the Drop In PLUS the weight of the ice in the Drop In PLUS the weight of the beverage tubing?
- ☐ Are there any braces or support structures in the counter top that could be cut and damaged?
- ☐ Avoid direct sunlight or close heating / air conditioning ducts.
- ☐ Is a proper drain available?

To properly install the SerVend Drop In, Use these guidelines:

- ☐ Meet all local code requirements.
- ☐ Have a receptacle with the proper voltage at the installation site for connection to the Drop In.

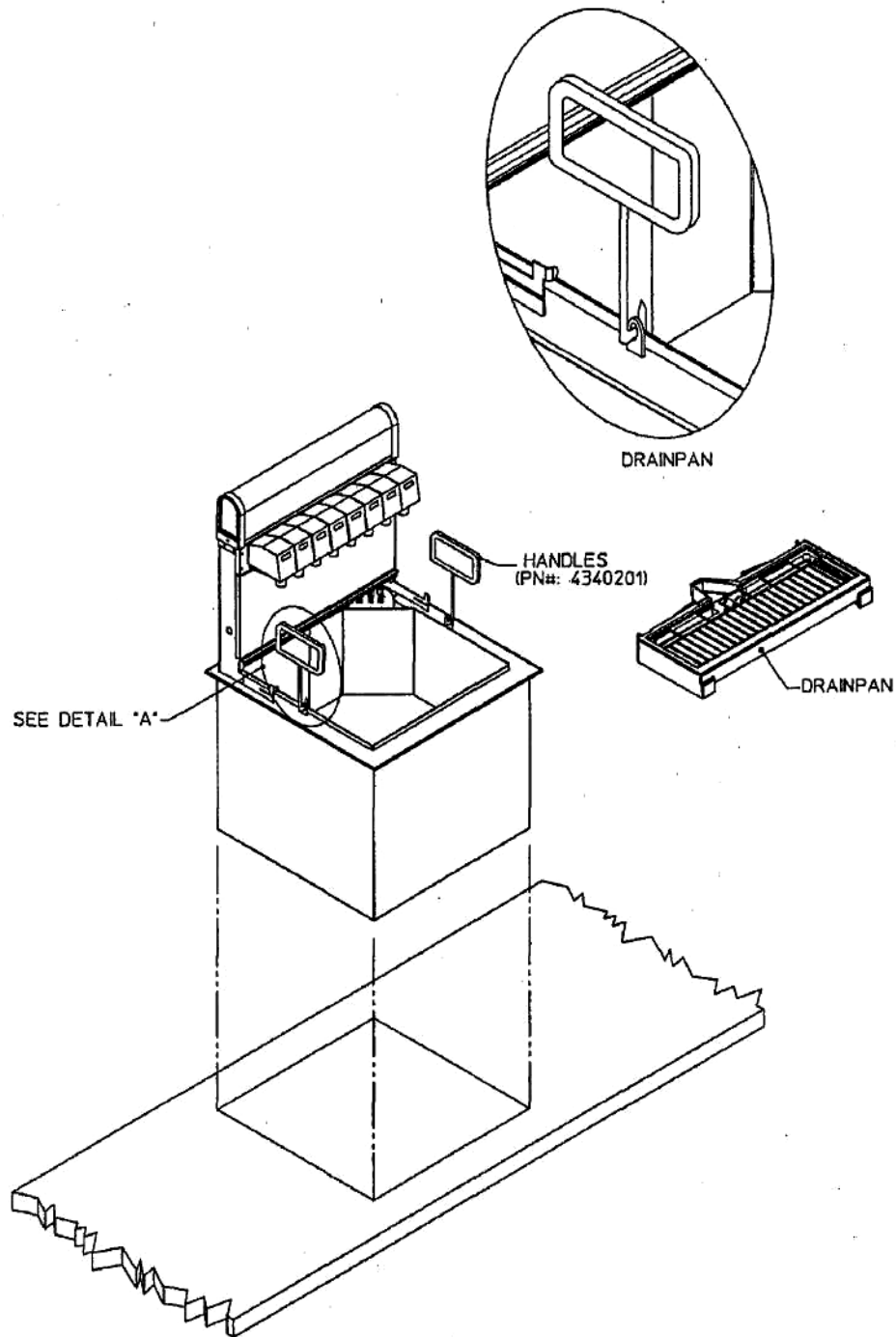
Completely unpack the Drop In, removing all padding and shipping retainers.

- ☐ Route the beverage tubing from the syrup racks to the location of the Drop In.
- ☐ Make all beverage connections, if necessary, at the syrup racks.
- ☐ Mark the counter top with the appropriate cut out opening.
- ☐ Check that the cut out location is approved by the owner before any cuts are made in the counter top.
- ☐ Compare the marked cut out with the dispenser chest size. Be sure you are going to make the proper hole size.
- ☐ Cut the marked opening in the counter top.
- ☐ Place one block of wood on the left side of the opening at the edge of the cut out. Place another block of wood on the right side of the opening at the edge of the cut out. See the following drawing.



- Set the Drop In in place resting on the two blocks of wood mentioned earlier. TIP: SerVend has available hooks that fit into the doorstop holes. This allows for easier handling of the Drop In. See the illustration at the top of the next page.

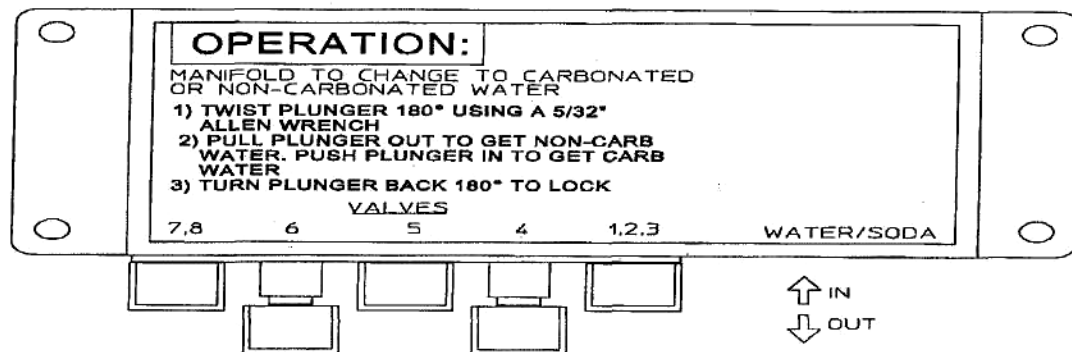
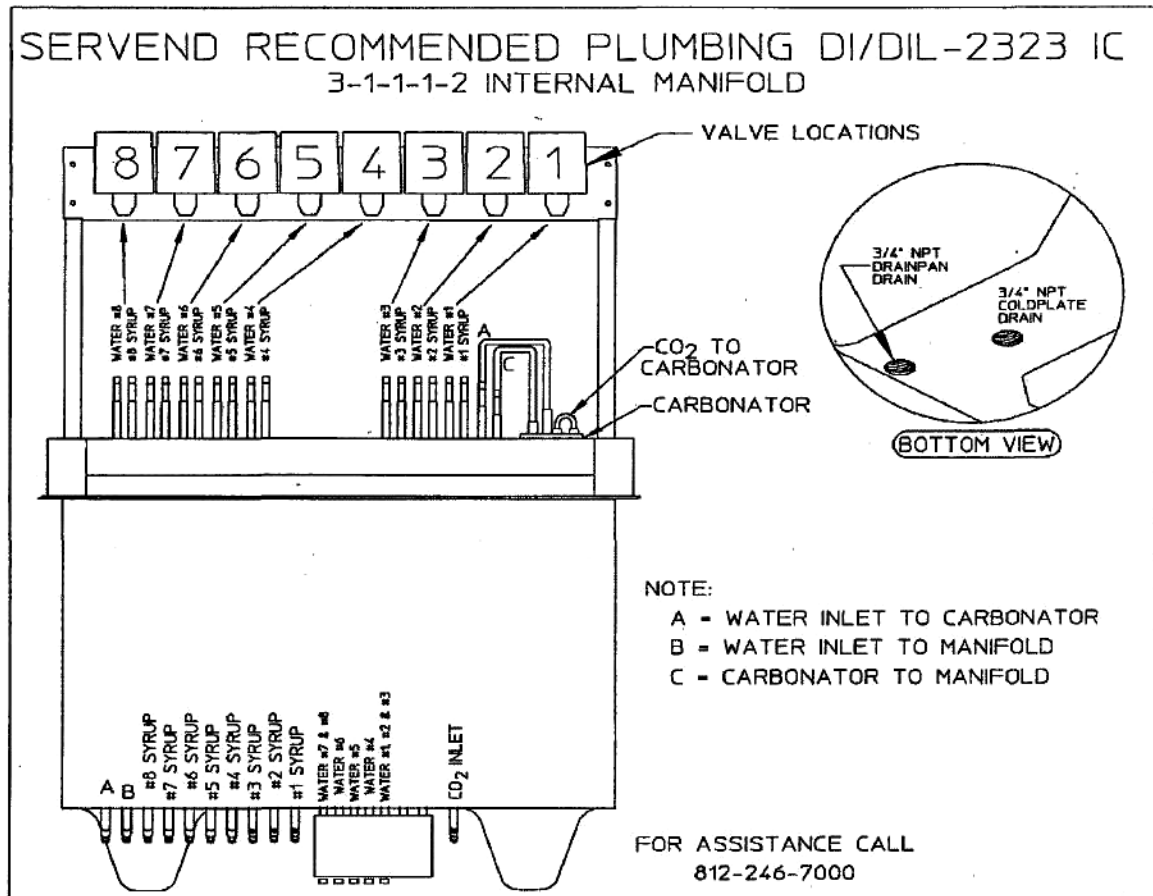
INSTALLATION **HANDLES**



- Attach the drain lines to the drain connections at the bottom rear of the chest. There is one drain for the drain pan. Another drain fitting is provided for the ice chest. These must be connected separately.
-

Install the beverage tubing to the appropriate fittings. Refer to the cold plate drawing on the front of the chest for your individual set up. See the example below of how your Drop In may be hooked up. Note: The CO₂ connection for the internal carbonator is located with the cold plate connections. See plumbing diagram.

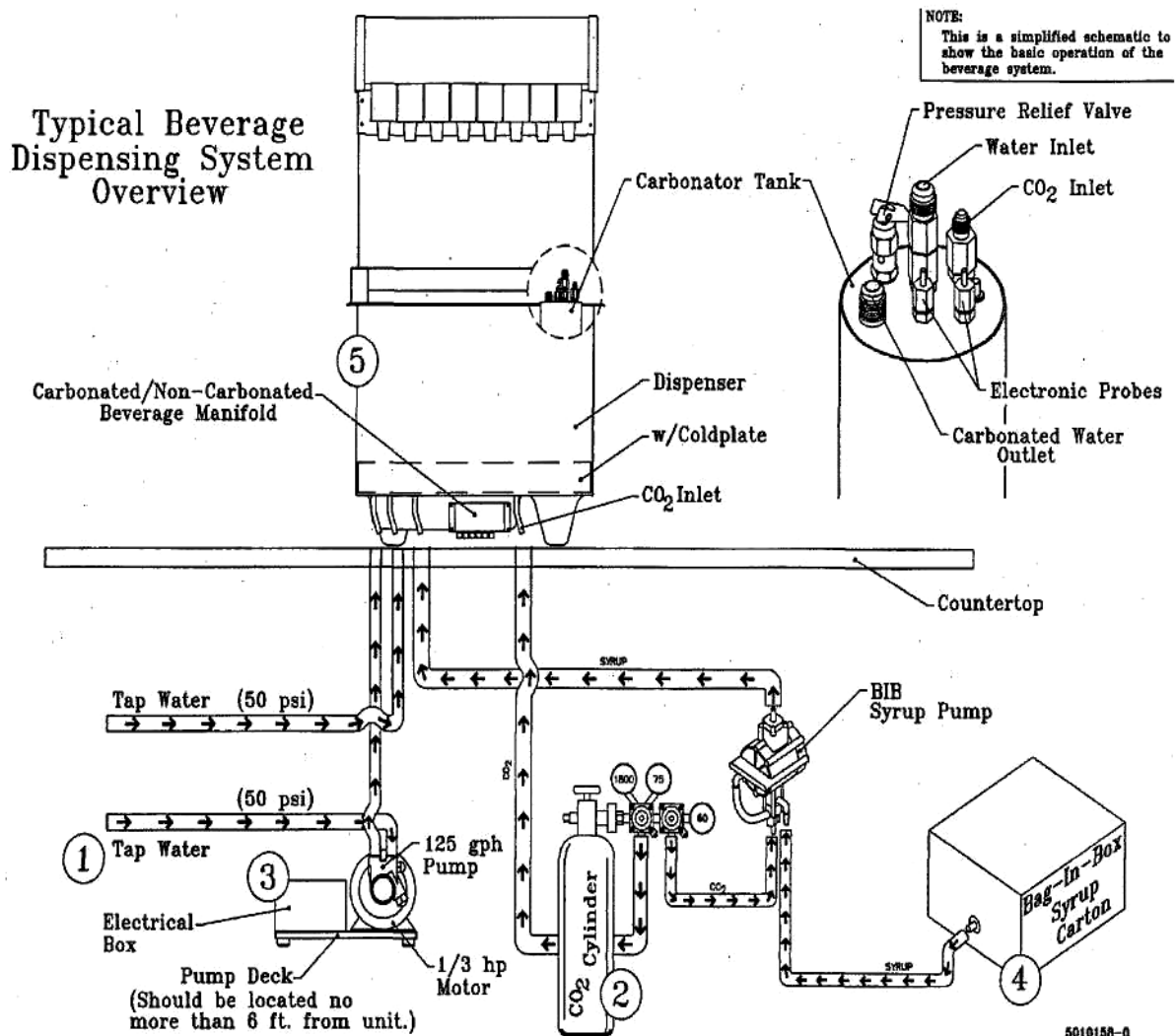
Note: Valves are read from right to left.



- Note: The water supply must first be connected to the carbonator pump (not shown) before plumbing to connections "A" shown on the plumbing diagram. The carbonator pump deck must be within six feet of the dispenser for optimum performance. See BIB installation diagram for system pressure settings.

- ☐ Connect the carbonator pump deck(power supply) to the valve and light connections (if equipped) at the Drop In. The wires are marked appropriately. Check the electric key switch on the side of the tower. The key should be in the off (vertical) position.
- ☐ Turn the key switch for the valves to the "ON" position.
- ☐ Push each valve operator one at a time. Operate each valve long enough to obtain both syrup and water through the valve.
- ☐ The outside edge of the chest flange must be sealed to the counter top. Apply a generous amount of sealant to the underside of the outside edge of the flange.
- ☐ Fill the chest with ice. Allow the coldplate to chill the beverage tubing inside the coldplate.
- ☐ Carefully remove the two blocks of wood from under the flange. The Drop In will then sit flat on the counter top.
- ☐ Clean your work area while waiting for the cold plate to cool.
- ☐ Wipe excess sealant from around the outer portion of the flange.
- ☐ After the coldplate has completely chilled, operate one valve for about 15 seconds. Take a temperature reading of the beverage on the next 15 second draw. If the sample drawn is 40°F or lower, go to the next step. If the beverage is higher than 40° F, wait 10 minutes longer for the beverage to attain the proper temperatures. Then repeat this step.
- ☐ Check to be sure the entire flange edge is sealed to the counter top.
- ☐ When the beverage achieves the proper temperature, set the flow of the water first, then set the flow of the syrup to achieve the ratio (brix) recommended by the syrup supplier.
- ☐ Apply water, CO₂, and syrup pressure to the beverage system. Check for leaks to the system. Repair any leaks found.
- ☐ Wipe down the Drop In and make final inspection of the area.
- ☐ Pour about one gallon cold water into the chest. Check for any drain line leaks. Repair any leaks found.
- ☐ Connect the power supply cord from the carbonator deck box to the proper electric supply.

BIB Installation Diagram



The internal carbonator in the post mix system has two inlet and one outlet connection. The internal carbonator is pre-plumbed at the factory. The inlets for CO₂ and water are located by the coldplate inlets. There will be two inlets for water and one inlet for the CO₂. Refer to plumbing diagram if you have questions.

The outlet of the syrup supply (either Figal tank or BIB pump) connects to the appropriate coldplate syrup inlet fitting. The syrup flows through the coldplate to be chilled on its way to the valves. The water flows through the coldplate to the internal carbonator then back through the coldplate chilling the carbonated water on its way to the valves. When both fluids leave the beverage valve they are mixed in the nozzle of the valve. Out comes a properly cooled, proper ratio soft drink.

When starting a new beverage system of either type, be sure the electrically operated valves are turned off. Assure all connections are made, turn the water supply on to the dispenser. Open CO₂ tank valve and set all pressures. Place ice on the coldplate and allow the coldplate to cool. After the beverage has achieved a 40 F temperature, the ratio of the product (brix) on a post mix system may then be set.

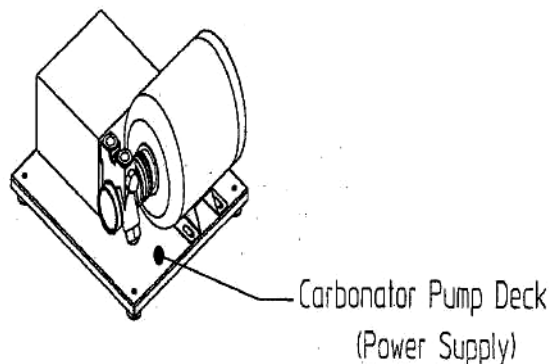
Internal Carbonator: Carbonator & Pump Motor:

The carbonator has two inlets and one outlet connection, as well as a relief valve and two conductivity probes. The water inlet is a double check valve topped with a 3/8" flared fitting. The carbonator will be pre-plumbed as it leaves the factory. If the carbonator needs to be serviced or if the fittings need to be replaced, make sure a nylon washer is used inside the swivel fittings to prevent leaks.

The conductivity probes are used to control the level of water inside the carbonator tank. The red probe, or the "high" probe, is the shorter of the two. When the level of the water reaches the bottom of the red probe, the pump shuts off. The black, or "low" probe activates the pump when the water level inside the tank goes below the bottom tip of the probe. Both probes are wired to the electronic liquid level control, which is a circuit board mounted inside the electrical box.

Removing the cover of the electrical box will grant access to the circuit board. The transformer is located in the electrical box on the DI-2323. . As the control receives a signal from the conductivity probes, it activates the pump motor, which will pump water into the carbonator until the water reaches the high probe.

The pump motor and electrical box are mounted together on a single platform. The pump is a standard 125 GPH Procon pump. The flared fittings accept the same swivel/barb scheme used on the carbonator water connections. Teflon tape or some other means of sealing must be used on the fittings to prevent leaks. Also, water enters the pump from the water source on the side that has the filter.



CLEANING AND SANITIZING

All cleaning **MUST** meet your local health codes. These instructions are included as a guide to cleaning

DAILY

The daily cleaning of the SerVend Drop In can be accomplished within just a few minutes. Remove the drain pan grid, the nozzles and diffusers from the beverage valves. Using mild soap and warm water, wash these parts. Wipe down all visible exterior surface of the drop in, being careful not to get any of the soapy solution in the ice chest of the Drop In. Rinse all parts. Pour the remaining warm soapy solution **SLOWLY** down the drain pan. Replace the drain pan grid in the drain pan.

CAUTION: Do not pour hot coffee or any hot liquid into the drain pan. These liquids are too hot for the plastic pan. If ice is in the pan or the drain lines, the thermal shock can cause the pan to crack.

MONTHLY

Once per month a more detailed cleaning on the Drop In should be done. Mix a large tub of warm soapy water. Remove the drain pan grid, splash panel, and drain pan from the machine and place in the water. Remove the beverage valve nozzles and diffusers. Place them also in the tub. Wash each part and rinse.

Remove all ice from the ice chest. Using this same warm soapy water, wash the inside of the chest. Wipe all exterior surfaces of the Drop In. Discard the soapy water **SLOWLY** down the drain pan drain and the ice chest drain.

Mix a sanitizing solution. This can be either a commercial sanitizer mixed according to package directions, or you may mix a solution of 1.7 cl (1/2 oz.) of liquid unscented laundry bleach to two gallons of tap water to achieve 5.25% Cl Na O concentration per gallon of water. The mixture should supply 100 PPM (parts per million) of available chlorine.

Wipe all exterior surfaces of the Drop In with the sanitizing solution. Rinse the inside of the ice chest, drain pan, grid, and splash panel with this solution and replace these parts on the machine.

Do **NOT** rinse any part with tap water after sanitizing as this may leave traces of unwanted bacteria on the equipment.

BEVERAGE SYSTEM

You should also clean the beverage system monthly. Please check with your syrup supplier for specific instructions. The instructions below are provided as a general guide for beverage cleaning. This procedure is for cleaning and sanitization of one syrup circuit at a time. Repeat this procedure for each syrup line in your system.

Cleaning agents needed:

Mild Detergent

Household bleach or equipment sanitizing powder. Household bleach should contain 5.25 % sodium hypochlorite.

Beverage System Cleaning and Sanitizing Instructions

You will need the following items to clean and sanitize the beverage system:

Baa-in-Box (BIB) Svstem

Three (3) clean buckets
Plastic brush or soft cloth
Mild detergent
Unscented bleach (5% Na CL 0) or
Commercial sanitizer
Bag-In-Box bag connector (see Note 1)

Figal System

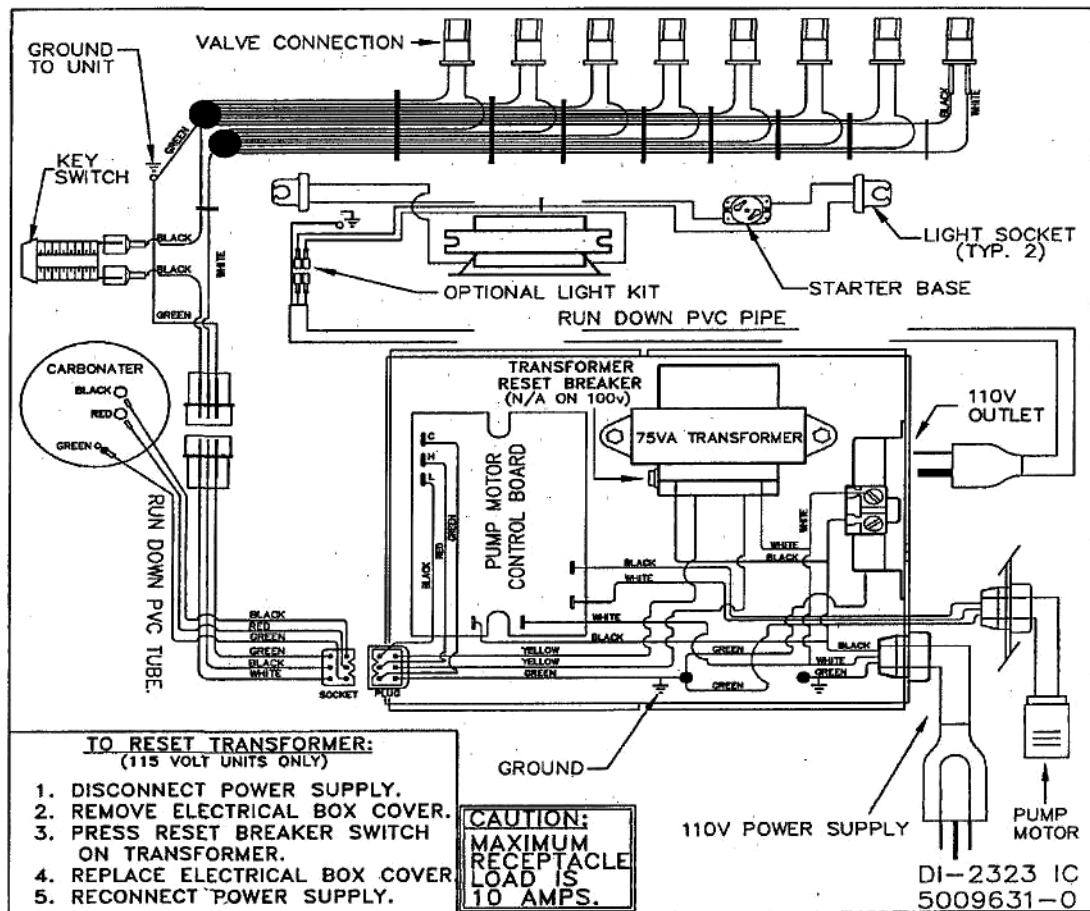
Three (3) Figal tanks
Plastic brush or soft cloth
Mild detergent
Unscented bleach (5% Na CL 0) or
Commercial sanitizer

- 1) Prepare the following in the buckets or Figal tanks:
 - i) Bucket 1, warm to hot tap water for rinsing.
 - ii) Bucket 2, mild detergent and warm to hot water.
 - iii) Bucket 3, unscented bleach (5% Na CL 0) or commercial sanitizer and warm to hot water. Mixture should supply 100 PPM available chlorine (1/4 oz. bleach to 1 gallon water).
- 2) Disconnect syrup connector from BIB or Figal.
- 3) Rinse connector with warm tap water.
- 4) Connect syrup connector to BIB connector and immerse both into Bucket 1. On Figal systems, connect syrup connector to Tank 1 and connect CO₂ connector to CO₂ side of Figal.
- 5) Draw rinse water through system until clean water is dispensed (see Note 2).
- 6) Connect Bucket 2 to system.
- 7) Draw detergent solution through system until solution is dispensed.
- 8) Repeat steps 2-7 until all syrup circuits contain detergent solution.
- 9) Allow detergent solution to remain in the system for 5 minutes.
- 10) Connect Bucket 3 to system.
- 11) Draw sanitizing solution through system until solution is dispensed.
- 12) Repeat step 11 until all syrup circuits contain sanitizer solution.
- 13) Allow sanitizer solution to remain in system for 15 minutes.
- 14) Remove nozzles and diffusers from beverage valves.
- 15) Scrub nozzles, diffusers and all removable valve parts (except electrical parts) with a plastic brush or a soft cloth and the detergent solution.
- 16) Soak nozzles, diffusers and removable valve parts (except electrical parts) in sanitizer for 15 minutes.
- 17) Replace nozzles, diffusers and valve parts.
- 18) Connect Bucket 1 to system.
- 19) Draw rinse water through system until no presence of sanitizer is detected.
- 20) Attach syrup connectors to BIB's or Figals.
- 21) Draw syrup through system only syrup is dispensed.
- 22) Discard first 2 drinks.

Note 1: The BIB bag connector can be obtained by cutting the connector off of an empty, disposable syrup bag.

Note 2: Most beverage valves allow the syrup side to be manually activated by depressing the syrup pallet

Wiring Diagram



PROBLEM		
on.	Is the dispenser plugged in?	Plug the dispenser in.
	Circuit breaker open or fuse blown?	Reset circuit breaker or change fuse.
	Burned out filament. Check continuity with meter.	Replace florescent tube.
	Possible faulty starter.	Replace starter.
	Open circuit windings on ballast.	Replace ballast.
None of the electrically operated valves operate.	Dispenser unplugged.	Plug dispenser into a good receptacle.
	Circuit breaker or fuse blown.	Reset circuit breaker or cahnge fuse.
	Key switch turned off	Turn key switch on.
	Key switch not making connection through it.	Replace key switch.
	Open circuit on one side of the transformer.	If either winding is open, replace the transformer.
Only one electrically operated vlave does not work.	Wire broken or poor connection.	Replace/repair wire or connection
Drinks are too sweet (heavy).	1. Beverage valve out of adjustment (brix). 2. No ice on coldplate. 3. Syrup is too warm.	1. Brix beverage valve. 2. Fill ice bin. 3. Store syrup between 40 ° F and 90 ° F.
Drinks are not sweet enough (light).	1. Beverage valve is out of adjustment (brix). 2. Syrup is too cold.	1. Brix beverage valve. 2. Store syrup between 40 ° F and 90 ° F.
Drinks are foaming.	1. No ice on coldplate. 2. Syrup is too warm. 3. CarbonatorCO ₂ pressure set too high.	1. Fill ice bin. 2. Store syrup between 40 ° F and 90 ° F. 3. Set carbonator CO ₂ to 75 psig. psi.
Drinks are warm.	1. No ice on coldplate. 2 Water temperature too high.	1. Fill ice bin 2. Incoming water temperature should be between 40° F and 90° F.